

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Thorsten Lohmar, et al	§	Group Art Unit:	2442
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Application No:	10/597,956	§	Examiner:	Recek, Jason D
		§		
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Attorney Docket No: P19248-US1				
Customer No.: 27045				

For: Method and device for reliable broadcast

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APPEAL UNDER 35 U.S.C. §134

This Brief is submitted in connection with the decision of the Primary Examiner set forth in Final Official Action dated April 28, 2011 finally rejecting claims 1-16 and 22-27. The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §41.20(b)(2) that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1379.

Real Party in Interest

The real party in interest, by assignment, is: Telefonaktiebolaget LM Ericsson (publ)
SE-164 83
Stockholm, Sweden

Related Appeals and Interferences

None.

Status of Claims

Claims 1-16 and 22-27 are pending in the present application, each of which are finally rejected and form the basis for this Appeal. Claims 1-5, 7-16 and 22-27, stand rejected, under 35 U.S.C. §103(a), as being unpatentable over Tatsumi *et al.* US 2002/0095636 in view of Byers US 2009/0248843; and Claim 6 stands rejected as being unpatentable over Tatsumi and Byers in view of Hudson *et al.* US 2003/0204613;. Claims 1-16 and 22-27, including all amendments to the claims, are attached in the Claims Appendix. The rejection of claims 1-16 and 22-27 is appealed.

Status of Amendments

The claims set out in the Claims Appendix include all entered amendments. No amendment has been filed subsequent to the final rejection.

Summary of Claimed Subject Matter

Claim Element	Specification Reference
A method for broadcasting content data from a broadcaster to a plurality of clients, the method comprising the steps of:	Throughout the Specification, including: Page 2, line 9
the broadcaster transmitting the content data simultaneously to the plurality of clients via an unreliable downlink-only communications pathway;	Throughout the Specification, including: Page 7, lines 12-17
bi-directionally coupling the plurality of clients, each to a proxy server to initiate post-processing transactions, the broadcaster communicating with the proxy server to provide sufficient information to handle any of the post-processing transactions requested by any one of the plurality of clients;	Throughout the Specification, including: Page 7, lines 12-24
determining, by the plurality of clients, a plurality of available proxy servers that may be	Throughout the Specification, including: Page 8, lines 5-14

contacted for post-processing after the content data broadcast, wherein the plurality of clients is different from the plurality of proxy servers;	
randomly selecting, by each of the plurality of clients, one of the plurality of available proxy servers to contact for post-processing after the content data broadcast; and contacting, by the plurality of clients, each of the selected proxy servers to initiate post-processing.	Throughout the Specification, including: Page 9, lines 22-25

Claim Element	Specification Reference
22. (Previously Presented) A broadcaster for broadcasting content data to a plurality of clients, the broadcaster comprising:	Throughout the Specification, including: Page 2, line 9
a content data acquisition unit for acquiring content data for broadcast;	Throughout the Specification, including: Page 5, lines 29-35
a determination unit for determining which of a plurality of proxy servers may be contacted by the plurality of clients for post-processing wherein the plurality of clients is different from the plurality of proxy servers;	Throughout the Specification, including: Page 5, lines 29-35
a broadcast unit for broadcasting the content data to the plurality of clients along with a list specifying the proxy servers that may be contacted for post processing to permit the plurality of clients to randomly select a proxy server for post-processing, wherein the broadcast unit is adapted for	Throughout the Specification, including: Page 5, lines 29-35
simultaneously transmitting the content data to the plurality of clients via an unreliable downlink-only communications pathway; and	Throughout the Specification, including: Page 7, lines 12-17
communicating with the proxy server to provide sufficient information to handle any of the post-processing transactions requested by any one of the plurality of clients; and	Throughout the Specification, including: Page 7, lines 26-33
means for bi-directionally coupling any one of the plurality of clients to a proxy server to initiate post-processing transactions.	Throughout the Specification, including: Page 2, lines 32-37

Claim Element	Specification Reference
25. (Previously Presented) A system comprising:	Throughout the Specification, including: Page 2, line 9
at least one broadcaster for broadcasting content data and post- processing instructions;	Throughout the Specification, including: Page 7, lines 12-17
a plurality of clients for receiving the broadcast content data;	Throughout the Specification, including: Page 7, lines 12-24
a plurality of proxy servers for processing requests from the plurality of clients after the content data is broadcast, wherein the plurality of clients is different from the plurality of proxy servers;	Throughout the Specification, including: Page 8, lines 5-14
wherein the post-processing instructions identify available proxy servers; and	Throughout the Specification, including: Page 9, lines 22-25
wherein the plurality of clients randomly select and contact one of the available proxy servers for post- processing.	

The specification references listed above are provided solely to comply with the USPTO's current regulations regarding appeal briefs. The use of such references should not be interpreted to limit the scope of the claims to such references, or to limit the scope of the claimed invention in any manner.

Grounds of Rejection to be Reviewed on Appeal

The issue presented for this appeal is whether claims 1-16 and 22-27 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Tatsumi in view of Byers, and in the case of claim 6, Tatsumi, Byers and the Hudson reference.

Argument

Issue

The Applicant respectfully submits that independent claims 1, 12 and 25, and the respective dependent claims, are patentable over the Tatsumi and Byers references. Also, the Applicant submits that claim 6 is patentable over the combination of the Tatsumi, Byers and Hudson references.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations (MPEP 2143).

In that regard, the Applicant respectfully submits that the Examiner's references fail to teach or suggest each and every element of the presently pending independent claims. The Applicant respectfully contends that all the limitations in the independent claims are not disclosed by the cited art, whether considered individually or combination.

In the Response to Arguments of the Final Office Action dated April 28, 2011, the Examiner states that Tatsumi does not teach proxy servers and relies on Byers for teaching the plurality of intermediate proxy servers. The Applicant agreed that Tatsumi does not teach proxy servers and respectfully contends that even though Byers teaches proxy servers, Byers does not teach the configuration of intermediate proxy servers claimed by the Applicant.

Also, in the Response to Arguments, the Examiner indicated that the Applicant concludes that Tatsumi does not disclose a non-bidirectional path. As pointed out in the Applicant's response to the previous Non-Final Office Action, the Applicant indicated at that time that there was no disagreement regarding Tatsumi having a bi-directional path as the Examiner stated. However, Figure 1 of Tatsumi refers to a "*bi-directional path (122) between the broadcaster (101) and the clients/receivers*" not between the clients/receivers and proxy servers as that claimed by the Applicant.

What the Applicant meant to include in answer to the Response was that Tatsumi does not teach intermediate proxy servers between a client and a proxy server. The Applicant respectfully submits that the confusion regarding the Applicant's answer was probably caused because of a sentence fragment in the argument by the Applicant. The fragment; "*Thus, Tatsumi does not disclose a non-bidirectional pathway* " at line 2 on page 8 of the Applicant's response to the non-Final Office Action, dated November 10, 2010, should have read; "*Thus, Tatsumi does not disclose a bi-directional pathway as*

claimed by the Applicant. “The Applicant apologizes for the error and resulting confusion, but still contends that Tatsumi’s bi-directional pathway is not the same as the Applicant’s bi-directional pathway.

And, with regard to the reference to paragraph [0036] by the Examiner as mischaracterizing the Byers reference, the Applicant merely meant to indicate support in the Applicant’s Specification for the recited limitation not an attempt to incorporate a limitation from the specification into the claims, i.e., the limitation “...*determining, by the plurality of clients, a plurality of available proxy servers that may be contacted for post-processing...*” has support in paragraph [0036], which states, “*Next, at step 220, the client identifies a list of available proxy servers to contact for post-processing.*”

The Applicant’s present invention discloses a solution for file repair in a broadcast transmission. Content data is broadcast to a number of clients and each client is tasked to recognize whether there is an error in the received data. In case of error the client randomly selects one proxy server from a list of proxy servers to contact and recover the data. The reason for providing the list of proxy servers and utilizing a random selection of proxies in case of error is that since not all clients contact the same proxy server, use of the random selection process saves resources.

The Tatsumi reference discloses that, if an error occurs during broadcast transmission, the transmitter responsible for the transmission is contacted for retransmitting certain data. The transmitter then decides whether to use a bi-directional or broadcast transmission. Effectively, Tatsumi discloses that the same unit is always contacted for retransmission. The resource saving that is disclosed in Tatsumi is achieved by the transmitter deciding which type of transmission, unicast or broadcast, to use in case of error recovery.

The Tatsumi reference discloses direct communication between a broadcaster and clients. Tatsumi clearly states that there is a transmitter that corresponds to a receiver (paragraph [0020]). It is clear there is a point to point connection so that the broadcaster that sends data is also responsible for any retransmission. In Tatsumi, a problem exists that if there were a need for file recovery/retransmission all the clients may attempt to communicate with the broadcaster at the same time. With the

broadcaster having so many attempts, there would be a congestion problem. As pointed out above the present invention reduces that problem by providing a proxy server between a client and a broadcaster that is chosen randomly by the client, thus saving resources.

Byers discloses a system for anonymously retrieving large scale Web data. Byers states; “A number of proxy servers are utilized to permit parallel access to a target Web server for processing multiple queries simultaneously.” . . . “Queries that would otherwise appear structured to the target server are assigned to the proxy server in a random fashion, obscuring the structured nature of the queries. The anonymous nature of the queries made by the proxy servers furthermore conceals the identity of the originating server.” (Abstract). Basically, Byers discloses a means for anonymously surfing the Web and the use of the number of proxy servers helps provide additional cover for a client address/identity.

The Examiner indicated that the Tatsumi reference does not teach proxy servers and that the Byers reference is relied upon for teaching proxy servers. The Applicant agrees with the Examiner that Tatsumi does not teach intermediate proxy servers. However, as indicated above the Applicant disagrees that Byers teaches proxy servers structured as claimed in the following: “...the broadcaster communicating with the proxy server to provide sufficient information to handle any of the post-processing transactions requested by any one of the plurality of clients;”. As claimed, the proxy server is positioned between the broadcaster and “any one of the plurality of clients”, which is different from the Byers reference.

The Byers reference also states that a client server determines and selects a proxy server. In paragraph [0043], Byers recites a user interface (not shown) that is provided by a client (301) for a client server (302). This indicates that the client and client server are different entities connected by the interface. (see also Figure 3) The Applicant respectfully submits that the pertinent limitation of claim 1; “...determining, by the plurality of clients, a plurality of available proxy servers that may be contacted for post-processing after the content data broadcast, wherein the plurality of clients is different from the plurality of proxy servers...”, shows selection of proxy servers by clients. As distinguished from Byers, the Byers reference discloses a client server

selecting a proxy server. Also paragraph [0044] of Byers states in part; “*The client server establishes IP connections 322 to proxy servers such as server 303, as required.*” There is no indication in Byers that a client determines and selects a random, available proxy server.

The Applicant respectfully notes that the Examiner cites paragraph [0043], Fig. 3, of the Byers reference as explicitly disclosing a proxy server selection process performed by a client, such as in the Applicant’s claim 1. The Applicant respectfully disagrees; a determining and selection process, as claimed by the Applicant, is not performed by the client in the Byers reference (see paragraph [0044]). As indicated by the claim language, and supported throughout the Applicant’s Specification, the client determines and selects the proxy servers.

Claim 1 limitations:

“...determining, by the plurality of clients, a plurality of available proxy servers that may be contacted for post-processing after the content data broadcast, wherein the plurality of clients is different from the plurality of proxy servers;
randomly selecting, by each of the plurality of clients, one of the plurality of available proxy servers to contact for post-processing after the content data broadcast;...”(emphasis added)

As previously noted by the Examiner, there is no intermediate entity in Tatsumi; that is, the pathways are direct from the transmitter to the receiver. This is different from the Applicant’s invention, which claims a proxy server in the path between the broadcaster and the receiver/client in the bi-directional path.

Tatsumi is also cited for disclosing the limitation “... *coupling the plurality of clients, each to a proxy server to initiate post-processing transactions the broadcaster communicating with the proxy server to provide sufficient information to handle any of the post-processing transactions requested by any one of the plurality of clients;...*”. The Applicant has reviewed the cited portions of Tatsumi and respectfully disagrees with the Examiner’s interpretation of the Applicant’s limitation and the application of the cited portion of Tatsumi to that limitation. Each of the plurality of clients, as stated in the claim, in the Applicant’s present invention is coupled to a proxy server. (Abstract) As

noted by the Examiner in paragraph 1 of the Response to Arguments in the Final Office Action, Tatsumi does not teach proxy servers. And, the Byers reference is cited as disclosing “ *the plurality of clients is different from the plurality of proxy servers...*”. However, there is no link provided between Byers and Tatsumi, in the rejection, to show that Tatsumi, which does not teach proxy servers, teaches the subject limitation that includes a proxy server.

The Byers reference proposes parallel random proxy usage for large scale web access. Byers is not about communications between a client and a random, intermediate proxy server; Byers is directed at improving the setting of requests in the Internet and for hiding detection of a pattern that may be present in the internet queries (see Byers, paragraph [0045]). The Byers reference teaches a client server choosing multiple random proxy servers to forward multiple queries to a target server so as to help hide the identity of a client.

The Byers reference discloses “...*posing a plurality of queries over a network to a target server using random proxy servers located on the network.*” And, “...*because the target server actually receives the queries from different random servers on the network, patterns in the queries are difficult to detect and the identity of the server actually originating the queries is concealed.*” (para. [0007]). This last quote from paragraph [0007] in the Byers reference points towards the anonymization feature taught by the Byers reference which requires routing multiple queries through multiple servers; as disclosed in paragraph [0008]; “*The method is for retrieving a database view accessible by posing a plurality of queries over a network to a target server.*”

Byers does not disclose post processing between a client and a proxy as claimed by the Applicant. The Applicant claims “a plurality of available proxy servers that may be contacted for post-processing after the content data broadcast”. The Byers reference does not handle post processing between a client and a proxy, because after a query is sent Byers can’t handle post-processing. See paragraph [0040] in Byers where after a query is sent to a proxy server, “... *the proxy server is removed from the list of available servers...*”. So, the proxy server being removed from the list prevents the server from performing any post processing. Therefore, the Byers reference does not disclose this

limitation. The Applicant respectfully contends that a combination of Tatsumi and Byers does not teach or suggest the following limitation:

“...determining, by the plurality of clients, a plurality of available proxy servers that may be contacted for post-processing after the content data broadcast, wherein the plurality of clients is different from the plurality of proxy servers...” (excerpt from claim 1)

The Tatsumi and Byers references, whether taken individually or together, do not disclose the recited limitations for various reasons as discussed above. The Byers reference teaches a client server that performs the Byers method instead of a client that both determines and selects a proxy server. Tatsumi teaches a broadcaster to client (point to point) structure that would teach away from combining Tatsumi and Byers, because the point to point system requires direct communication between the broadcaster and the client (Tatsumi) and Byers teaches the use of a client server communicating with a target server via multiple proxy servers is an indirect system and definitely not point to point. Thus, neither Tatsumi or Byers, or a combination of the two references, disclose or teach all the limitations of claim 1 or the analogous claims 12 and 25.

Therefore, the Applicant respectfully submits that a prima facie case of obviousness has not been met and the Applicant requests the allowance of claim 1 and analogous claims 22 and 25.

Claims 2-5, 8-16, 23-25 and 27 depend from independent claims 1, 22 and 26 and recite further limitations in combination with the novel elements of the independent claims. Therefore, the allowance of claims 2-5, 8-16, 23-25 and 27 is respectfully requested.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tatsumi and Byers in view of Hudson, *et al.* (US 2003/0204613). The Applicant respectfully traverses the rejection of this claim.

The Hudson reference is cited for disclosing a digital rights manager. The Hudson reference teaches the use of a single “persistent network proxy server” (paragraphs [0045] – [0047]). “Content unit requests, as submitted by the client nodes

are directed through the persistent network proxy server 46 to a host broker server 48. (para. [0047]) Hudson teaches directing requests through a single proxy server, not random proxy servers and multiple clients are associated with a single proxy server. Thus, a combination of Tatsumi, Byers and Hudson fails to disclose the limitations of claim 6, as the three systems are not mutually compatible.

Claim 6 depends from claim 1 and recites further limitations in combination with the novel elements of claim 1. Therefore, the Applicant respectfully submits that the combination of these references does not teach all the limitations in claim 6 and the allowance of claim 6 is respectfully requested.

CONCLUSION

The claims currently pending in the application are patentable over Sawahashi, and the Applicants request that the Examiner's rejection thereof be reversed and the application be remanded for further prosecution.

Respectfully submitted,

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CLAIMS APPENDIX

1. (Previously Presented) A method for broadcasting content data from a broadcaster to a plurality of clients, the method comprising the steps of:

the broadcaster transmitting the content data simultaneously to the plurality of clients via an unreliable downlink-only communications pathway;

bi-directionally coupling the plurality of clients, each to a proxy server to initiate post-processing transactions, the broadcaster communicating with the proxy server to provide sufficient information to handle any of the post-processing transactions requested by any one of the plurality of clients;

determining, by the plurality of clients, a plurality of available proxy servers that may be contacted for post-processing after the content data broadcast, wherein the plurality of clients is different from the plurality of proxy servers;

randomly selecting, by each of the plurality of clients, one of the plurality of available proxy servers to contact for post-processing after the content data broadcast; and

contacting, by the plurality of clients, each of the selected proxy servers to initiate post-processing.

2. (Previously Presented) The method of claim 1, further comprising the steps of:

determining, by the plurality of clients, contact intervals for each of the available proxy servers specifying the time period in which the proxy servers may be contacted after the broadcast;

randomly selecting, by the client, a delay time within the contact interval for contacting the selected proxy server; and

wherein the selected proxy server is contacted to initiate post-processing at the delay time.

3. (Previously Presented) The method of claim 1, further comprising the step of sending, by the plurality of clients to the contacted proxy server, information pertaining to content data that has or has not been correctly received.

4. (Previously Presented) The method of claim 3, further comprising the step of sending, by the contacted proxy server to the plurality of clients, information to reconstruct the content data.

5. (Previously Presented) The method of claim 1, further comprising the step of sending, by the plurality of clients to the contacted proxy server, a notification that the content data was either successfully or unsuccessfully received or reconstructed.

6. (Previously Presented) The method of claim 1, further comprising the step of obtaining, by the plurality of clients from a digital rights manager, at least one of permission and rights objects to access the content data.

7. (Previously Presented) The method of claim 1, further comprising the step of sending, by the plurality of clients to the contacted proxy server, data pertaining to one or more responses by the plurality of clients to prompts within the content data.

8. (Previously Presented) The method of claim 7, wherein the prompts relate to voting or the purchase of an object or service.

9. (Previously Presented) The method of claim 1, further comprising the step of sending, by the plurality of clients to the contacted proxy server, a request to obtain additional content data.

10. (Previously Presented) The method of claim 9, wherein the further content data is identified by a URL within the broadcasted content data.

11. (Previously Presented) The method of claim 1, further comprising the step of providing, by the broadcaster to each of the proxy servers, at least a portion of the content data.

12. (Previously Presented) The method of claim 1, wherein information associated with available proxy servers is embedded in the broadcasted content data as side information.

13. (Previously Presented) The method of claim 2, wherein information associated with the contact intervals for each available proxy server is embedded in the broadcasted content data as side information.

14. (Previously Presented) The method of claim 1, further comprising the step of determining one or more proxy servers prior to the random selection based on an attribute of the plurality of clients.

15. (Previously Presented) The method of claim 1, wherein the method is performed in a multicast scenario.

16. (Previously Presented) The method of claim 1, further comprising the step of adjusting the number of available proxy servers for subsequent broadcasts based on the number of post-processing transactions.

17. - 21. (Canceled)

22. (Previously Presented) A broadcaster for broadcasting content data to a plurality of clients, the broadcaster comprising:

a content data acquisition unit for acquiring content data for broadcast;

a determination unit for determining which of a plurality of proxy servers may be contacted by the plurality of clients for post-processing wherein the plurality of clients is different from the plurality of proxy servers;

a broadcast unit for broadcasting the content data to the plurality of clients along with a list specifying the proxy servers that may be contacted for post processing to

permit the plurality of clients to randomly select a proxy server for post-processing, wherein the broadcast unit is adapted for

simultaneously transmitting the content data to the plurality of clients via an unreliable downlink-only communications pathway; and

communicating with the proxy server to provide sufficient information to handle any of the post-processing transactions requested by any one of the plurality of clients; and

means for bi-directionally coupling any one of the plurality of clients to a proxy server to initiate post-processing transactions.

23. (Previously Presented) The broadcaster of claim 22, wherein the determination unit further determines contact intervals for each of the available proxy servers specifying the time period in which the proxy servers may be contacted after the broadcast; and

wherein the broadcast unit further broadcasts the contact intervals for each of the available proxy servers to permit the plurality of clients to randomly select a delay time within the contact interval in which to contact to selected proxy server for post-processing.

24. (Previously Presented) The broadcaster of claim 22, wherein said determination unit further determines one or more post-processing transactions that may be initiated by the plurality of clients.

25. (Previously Presented) A system comprising:
at least one broadcaster for broadcasting content data and post- processing instructions;

a plurality of clients for receiving the broadcast content data;

a plurality of proxy servers for processing requests from the plurality of clients after the content data is broadcast, wherein the plurality of clients is different from the plurality of proxy servers;

wherein the post-processing instructions identify available proxy servers; and

wherein the plurality of clients randomly select and contact one of the available proxy servers for post- processing.

26. (Previously Presented) The system of claim 25, wherein each of the plurality of clients comprises;

a reception unit for receiving broadcasted content data from the broadcaster;

a determination unit for determining the plurality of available proxy servers that may be contacted for post-processing after the content data broadcast, wherein the available proxy servers are different from the plurality of clients;

a first random selection unit for randomly selecting one of the available proxy servers to contact for post processing after the content data broadcast; and

a contact unit for contacting the selected proxy server to initiate post processing.

27. (Previously Presented) The system of claim 26, wherein

the determination unit further determines a contact unit for each of the available proxy servers specifying the time period in which the proxy servers may be contacted after the broadcast, the contact unit for contacting the selected proxy server contacts the selected proxy server to initiate post-processing at the specified time period and

a second random selection unit for randomly selecting the delay time within a contact interval for contacting the selected proxy server.

* * *

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.